

**REMARKS**

This is in response to the Office Action mailed on June 28, 2004.

Claims 1, 6, 9, 10, 12, 15, 16, and 20 are amended, and claims 21-22 are newly added; as a result, claims 1-22 are now pending in this application. Support for the amendments is found generally within the figures and the detailed description of the patent application.

**§112 Rejection of the Claims**

Claims 9-14 were rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The rejection asserts that the “claim(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.”

The Office Action states that the applicant does not disclose a strap that includes steel and brass together. Applicant respectfully disagrees. The Detailed Description of the specification discloses “In one embodiment, the bonding strap includes brass. In another embodiment, the bonding strap includes steel.” Specification page 5, lines 4-6. It is respectfully submitted that “includes” does not preclude other materials. Applicant respectfully traverses this rejection, since the specification and claims as originally filed refer to the inclusion of metals. However, Applicant has amended claims 9-10 to broaden the recited subject matter. Claim 12 was amended only to make its language consistent with claim 1. Claims 11-14 are believed patentable as relying on patentable base claims.

Applicant respectfully requests reconsideration and allowance of claims 9-14.

**§103 Rejection of the Claims**

1. Claims 1-3 and 15-16 were rejected under 35 USC § 103(a) as being unpatentable over Duncan (U.S. Patent No. 2,758,294) in view of Andes et al.(U.S. Patent No. 5,460,041, hereinafter “Andes”). Applicant respectfully traverses the rejection in detail as follows:

*Claims 1-3*

Applicant amended claim 1 to better recite the present subject matter and traverses the rejection on multiple grounds. Applicant is unable to find in the proposed combination of Duncan and Andes, among other things, a wire comprising a resistance temperature detector (RTD) sensing material wrapped in a plurality of adjacent windings around a flexible core wire to form distributed adjacent windings insulated from the core wire and including separation between adjacent windings to form a flexible assembly, and shrink tubing encapsulating at least the first end and the first core end, as recited by claim 1. Thus, it is respectfully submitted that the rejection fails to provide all of the recited subject matter.

The rejection asserted Duncan (FIG. 8) and Andes (Col. 8, lines 15-30), however, the assertions of what would have been obvious are respectfully traversed. For example, in contrast to the present subject matter Andes relates to coating of a thermocouple and does not mention or suggest coating a structure such as FIG. 8 of Duncan. Thus, Applicant timely traverses the assertion and rejection pursuant to M.P.E.P. 2144.03 and requests reconsideration and withdrawal of the assertion and rejection. Thus, the combination of the references fails to provide the recited subject matter, and are not properly combinable. Applicant respectfully submits that the structure as a whole must be considered, and that the recited combination is a new apparatus that provides an insulated temperature sensor as recited.

Dependent claims 2 and 3 are believed patentable for at least the reasons set forth above for claim 1. Applicant respectfully traverses the assertion that the subject matter of claim 2 is an "obvious variant." Applicant respectfully submits that the structure as a whole must be considered, and that the combination of the recited subject matter is not an obvious variant of the combination of the cited references in light of the discussion pertaining to claim 1, above. The Office Action states that the size of ordinary wires no. 22 with 1/64 inch plastic thereon renders the device on the order of about one-twentieth or an obvious variant since the number of wires changes from two to many as disclosed (Office Action, ¶4). Applicant respectfully traverses this assertion and rejection. No. 22 gauge wire is about .0250 inches in diameter and 1/64 plastic adds .03 inches of diameter ( $2 \times 0.015625$  inches) to a wire. Thus a single wire is more than one-twentieth of an inch, and the multiple wire structures shown in Duncan would not result in a device on the order of about one-twentieth of an inch, as recited in claim 2.

Applicant respectfully requests a basis for making this assertion or its withdrawal in the next official communication.

Reconsideration and allowance of claims 1-3 are respectfully requested.

*Claims 15-16*

Applicant amended claim 15 to better recite the present subject matter and traverses the rejection on multiple grounds. Applicant is unable to find in the proposed combination of Duncan and Andes, among other things, wrapping a plurality of adjacent windings of a first wire comprising a resistance temperature detector (RTD) sensing material around a flexible core wire to form distributed adjacent windings, insulated from the core wire and including separation between adjacent windings, creating a flexible wire wrapped assembly, and sealing at least the first end and the first core end of the temperature sensor by heating the polymer material, as recited by claim 15. Thus, it is respectfully submitted that the rejection fails to provide all of the recited subject matter.

Dependent claim 16 is believed patentable for at least the reasons set forth above for claim 15.

Reconsideration and allowance of claims 15-16 are respectfully requested.

2. Claims 1, 15-17 and 20 were rejected under 35 USC § 103(a) as being unpatentable over Adams (U.S. Patent No. 2,749,753) in view of Andes. Applicant respectfully traverses the rejection.

*Claim 1*

Applicant amended claim 1 to better recite the present subject matter and traverses the rejection on multiple grounds. Applicant is unable to find in the proposed combination of Adams and Andes, among other things, a wire comprising a resistance temperature detector (RTD) sensing material wrapped in a plurality of adjacent windings around a flexible core wire to form distributed adjacent windings insulated from the core wire and including separation between adjacent windings to form a flexible assembly, and shrink tubing encapsulating at least

the first end and the first core end, as recited by claim 1. Thus, it is respectfully submitted that the rejection fails to provide all of the recited subject matter.

Applicant further traverses the rejection which asserts that one skilled in the art would have combined Adams and Andes “for the purpose of preventing corrosion.” It is respectfully submitted that Adams relates to retaining its coil in a machine screw using insulating cement. Adams Col. 2, line 70 to Col. 3, line 13. Thus, the asserted problem of corrosion was adequately solved by Adams and one skilled in the art would not be inclined to use the shrink tubing of Andes. Furthermore, it is unlikely that shrink tubing would work in the Adams device, since the cement also served to retain the coil in the machine screw. Thus, the proposed combination is unlikely and not suggested or motivated by the cited references. Additionally, the structure of Adams, a coil encased in cement in a machine screw, is not a flexible design. Thus, the proposed combination fails to provide the recited subject matter.

Reconsideration and withdrawal of the assertion and rejection are respectfully requested.

*Claims 15-17 and 20*

Applicant amended claim 15 to better recite the present subject matter and traverses the rejection on multiple grounds. Applicant is unable to find in the proposed combination of Duncan and Andes, among other things, wrapping a plurality of adjacent windings of a first wire comprising a resistance temperature detector (RTD) sensing material around a flexible core wire to form distributed adjacent windings, insulated from the core wire and including separation between adjacent windings, creating a flexible wire wrapped assembly, and sealing at least the first end and the first core end of the temperature sensor by heating the polymer material, as recited by claim 15. Thus, it is respectfully submitted that the rejection fails to provide all of the recited subject matter.

Applicant further traverses the rejection which asserts that one skilled in the art would have combined Adams and Andes “for the purpose of preventing corrosion.” It is respectfully submitted that Adams relates to retaining its coil in a machine screw using insulating cement. Adams Col. 2, line 70 to Col. 3, line 13. Thus, the asserted problem of corrosion was adequately solved by Adams and one skilled in the art would not be inclined to use the shrink tubing of Andes. Furthermore, it is unlikely that shrink tubing would work in the Adams device, since the

cement also served to retain the coil in the machine screw. Thus, the proposed combination is unlikely and not suggested or motivated by the cited references. Additionally, the structure of Adams, a coil encased in cement in a machine screw, is not a flexible design. Thus, the proposed combination fails to provide the recited subject matter. The rejection is also unclear as to what is meant by "For claim 17, strain relief is 12." Clarification or withdrawal of the statement is requested in the next official communication.

Dependent claims 16, 17 and 20 are believed patentable for at least the reasons set forth above for claim 15.

Reconsideration and allowance of the rejected claims are respectfully requested.

3. Claim 2 was rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes and further in view of McQueen (U.S. Patent No. 4,977,385, hereinafter "McQueen '385"). Applicant respectfully traverses the rejection.

Claim 2 depends on claim 1. Applicant respectfully traverses the rejection on much the same grounds as above for claim 1 with respect to Duncan and Andes, as it is respectfully submitted that McQueen '385 fails to solve or address the inadequacies of Duncan and Andes stated above.

The Office Action asserts that McQueen '385, at the bottom of cols. 2 and 6, discloses such a size as a desirable quality for an RTD sensor so that same would have been obvious to fit the device into tight spaces (Office Action ¶6). Applicant respectfully traverses. Applicant notes that McQueen '385 in col. 2 differentiates an RTD from a thermocouple and then refers to a size of a thermocouple (*see* col. 2 lines 62-64). Thus, the cited portion of McQueen is expressly not that of a resistance temperature detector design. Additionally, in col. 6 McQueen is referring to linear or non-helical forms (*see* col. 6 lines 62-67). Thus, the cited portions of McQueen appear to be teaching away from the recited subject matter.

Applicant respectfully requests reconsideration and allowance of claim 2.

4. Claim 4 was rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes and further in view of Jameson (U.S. Patent No. 4,553,023). Applicant respectfully traverses the rejection on much the same grounds as stated above for claim 1 with respect to

Duncan and Andes. It is respectfully submitted that Jameson fails to address the deficiencies of Duncan and Andes stated above.

The Office Action states Jameson discloses such insulation ... for the purpose of securing RTD wires to an underlying core, so that it would have been obvious to wrap the RTD wires of Duncan on a core having such a woven fiberglass insulation (Office Action ¶7). Applicant respectfully traverses as Jameson appears to relate to wrapping the woven fiberglass tape for the purpose of securing RTD wires to an underlying hose (col. 4 lines 30-41). Thus, it is respectfully submitted that the combination fails to address the present subject matter.

Applicant respectfully requests reconsideration and allowance of claim 4.

5. Claims 5-7 were rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes and Jameson and further in view of Adams. Applicant respectfully traverses the rejection.

Claims 5-7 ultimately depend on claims 1- 4 and Applicant repeats the discussions above pertaining to claims 1-4 as it is believed that the present recited combination fails to address the deficiencies noted above. At least for the reasons stated previously, Applicant submits that the proposed combination of Duncan, Andes, and Jameson does not teach or suggest all of the elements of claims 1-4, and at least for the reasons stated previously for combinations including Adams, the addition of Adams to the proposed combination does not cure the defects.

Additionally, concerning claim 7, the Office Action identifies a banding strap 12 in Adams (office Action ¶8). However, Andes in Fig. 1 refers to a protective sheath 12 of braided wire (see col. 2 lines 48-51), and apparently does not teach or suggest a strain relieving banding strap as recited in claim 7.

Applicant respectfully traverses the assertion of what would have been obvious and requests clarification or withdrawal of such assertions in the next official communication.

Applicant respectfully requests reconsideration and allowance of claims 5 – 7.

6. Claims 8-12 were rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes, Jameson and Adams and further in view of Ellman et al. (U.S. Publication No. 2003/0050634, hereinafter “Ellman”). Applicant respectfully traverses the rejection.

Applicant respectfully submits that the combination fails to address the above noted deficiencies of Duncan, Andes, Jameson and Adams. Applicant repeats the previous arguments concerning proposed combinations of Duncan, Andes, Jameson, and Adams in regards to claims 1-7.

Additionally, Applicant is unable to find in Ellman, among other things, a teaching or suggestion of, a strain relieving banding strap including brass and/or of steel crimped around the core wire and the insulated lead wire.

Further, because Ellman apparently does not refer to devices to sense temperature, proper motivation is lacking to combine Ellman with the temperature measurement devices of Adams and Andes, the heat responsive conducting cable of Duncan, and the thermally insulated heated hose of Jameson.

Applicant respectfully requests reconsideration and allowance of claims 8-12.

7. Claims 13-14 were rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes, Jameson, Adams and Ellman and further in view of Boehm et al. (U.S. Patent No. 5,749,656, hereinafter “Boehm”). Applicant respectfully traverses the rejection.

Claims 13-14 ultimately depend on claims 1-12. The addition of Boehm to the proposed combination fails to address the deficiencies of the other references. Thus, Applicant respectfully traverses by repeating the previous arguments concerning proposed combinations of Duncan, Andes, Jameson, Adams, and Ellman in regard to claims 1-12.

Additionally, Applicant is unable to find in Boehm, among other things, wherein a second banding strap is placed around the first and second lead wires. Further, concerning claim 14, the Office Action asserts that such a force would have been inherent or obvious given the two crimps [of Boehm] where one of ordinary skill in the art recognizes that a pulling force of 5 pounds would most likely be met by the double crimp (Office Action ¶ 10). Because Applicant is unable to find any teaching or suggestion of pull force in Boehm, Applicant assumes the Office Action is taking official notice of pull force. If so, Applicant respectfully traverses the taking of Official Notice and requests a reference pursuant to M.P.E.P. 2144.03 to support such assertion.

Applicant respectfully requests reconsideration and allowance of claims 13 and 14.

8. Claim 17 was rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes and further in view of Hannigan (U.S. Patent No. 5,999,081). Applicant respectfully traverses the rejection.

The addition of Hannigan fails to address the above-mentioned deficiencies of Duncan and Andes with respect to claims 15-16. Thus, Applicant respectfully traverses the rejection of claim 17 as a dependent claim of patentable claim 16.

Applicant respectfully requests reconsideration and allowance of claim 17.

9. Claim 20 was rejected under 35 USC § 103(a) as being unpatentable over Duncan in view of Andes and further in view of McQueen (U.S. Patent No. 5,221,916, hereinafter “McQueen ‘916”).

Claim 20 is dependent on claim 15. It is respectfully submitted that McQueen ‘916 fails to address the deficiencies noted above for Duncan and Andes with respect to claim 15. Thus, Applicant repeats the discussion above for claim 15 in light of Duncan and Andes in traversing this rejection of claim 20.

Applicant respectfully requests reconsideration and allowance of claim 20.

Allowable Subject Matter and New Claims

Claims 18-19 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 21 - 22 are added to recite the subject matter indicated to be allowable in the last Office Action. Applicant respectfully requests examination and allowance of claims 21-22 in the next official communication.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6912 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date Nov. 29, 2004

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 29th day of November, 2004.

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